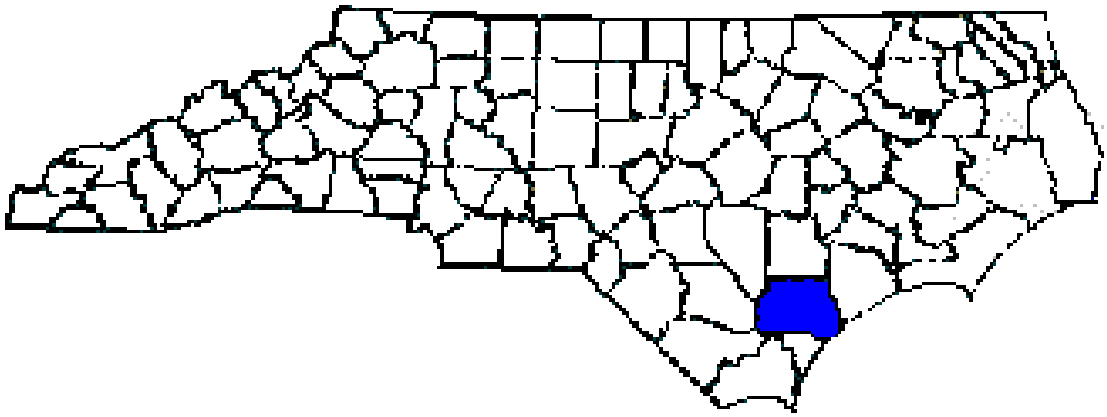
ANNUAL REPORT FOR 2012



Northeast Cape Fear River Wetland Mitigation Site
Pender County
TIP No. B- 4223
COE Action ID: 200101172
DWQ Project #: 060364
CAMA Permit #: 123-06

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North Carolina Department of Transportation
July 2012

TABLE OF CONTENTS

FIGURES

APPENDICES

SUMMARY

The Northeast Cape Fear River Wetland Mitigation Site is located in Pender County. The site was planted in March 2010 and was designed as wetland mitigation for impacts associated with bridge project B-4223.

The mitigation encompasses approximately 0.95 acre total of riverine swamp wetland by removing an abandoned causeway and connecting the road back to wetland elevations of the existing adjacent wetlands. Proposed impacts due to the replacement of Bridge No. 21 are 0.52 acre. Therefore, the surplus of 0.43 acre of restoration will be available for future projects in the Cape Fear River Basin (HUC 03030007). The restored area will be planted with species commonly found in riverine swamp communities. The restoration effort involved re-vegetating the area that was restored. The area that was restored is being monitored by visual observation and photo points for survival of planted seedlings. No hydrologic monitoring is required for this project; however, vegetation monitoring is required for five years.

There were two vegetation monitoring plots established throughout the 0.95 acre site. The mowed area noted during the 2010 evaluation was replanted in January 2011. After the third year of monitoring, the 2012 vegetation monitoring of the site revealed an average tree density of 559 trees per acre.

NCDOT proposes to continue vegetation monitoring at the Northeast Cape Fear River Wetland Mitigation Site.

1.0 INTRODUCTION

1.1 Project Description

The Northeast Cape Fear River Wetland Mitigation Site is located at Bridge No. 21 on NC 210 over the Northeast Cape Fear River (Figure 1). The site consists of approximately 0.95 acres of riverine wetland mitigation for wetland impacts associated with bridge project B-4223.

1.2 Purpose

In order for a mitigation site to be considered successful, the site must meet vegetation success criteria. This report details the vegetation monitoring in 2012 at the Northeast Cape Fear River Wetland Mitigation Site. Hydrologic monitoring was not required for the site.

1.3 Project History

March 2010	Site planted
June 2010	Vegetation Monitoring (1 year)
September 2010	Installed signs identifying site
January 2011	Replanted mowed area
July 2011	Vegetation Monitoring (2 year)
July 2012	Vegetation Monitoring (3 year)

1.4 Debit Ledger

Site name	Site TIP	HUC	River Basin	Division	County	Mitigation Type	Notes	As Built Quantity	Available	Debit
Bridge 21 on NC 210 over N.E. Cape Fear	**B-4223**	**3030007**	**Cape Fear**	**3**	**Pender**					**B-4223**
						Riverine Wetland Restoration		0.95	0.43	0.52

Note: Debit ledger information up to date as of September 10, 2012.

2.0 VEGETATION: NORTHEAST CAPE FEAR RIVER WETLAND MITIGATION SITE (YEAR 3 MONITORING)

2.1 Success Criteria

NCDOT shall monitor the restoration site by visual observation and photo points for survival of planted seedlings. NCDOT shall monitor the site for a minimum of five years. Monitoring will be initiated upon completion of the site planting.

No specific hydrological monitoring is proposed for this restoration site. The target elevation will be based on the adjacent wetland elevation and verified during construction. Constructing the site at the adjacent wetland elevation will ensure that the hydrology in the restored area is similar to the hydrology in the reference area.

2.2 Description of Species

The following tree species were planted in the Wetland Reforestation area:

Nyssa sylvatica var. *biflora*, Swamp Blackgum

Taxodium distichum, Baldcypress

Fraxinus pennsylvanica, Green Ash

2.3 Results of Vegetation Monitoring

Plot #	Swamp Blackgum	Baldcypress	Green Ash	Total (3 year)	Total (at planting)	Density (Trees/Acre)
1	7	28	5	40	54	504
2	6	29	12	47	52	615
Average Density (Trees/Acre)						559

Site Notes: The restoration area is re-attaining wetland jurisdictional status and the planted species are surviving. There was approximately 2 to 4 inches of standing water across the entire site at the time of monitoring. Other species noted onsite included *Juncus* sp., black willow, woolgrass, cattail, vines, *Scirpus* sp., stinkweed, phragmites, alder, wax myrtle, and various grasses.

Some ATV activity is occurring around the perimeter of the site but it is not affecting the overall restoration of the site. Some additional signs were installed at the access point into the site to prevent further site disturbances.

2.4 Conclusions

There were 2 vegetation monitoring plots established throughout the 0.95 acre site. The 2012 vegetation monitoring of the site revealed an average density of 559 trees per acre for the third year of monitoring.

3.0 OVERALL CONCLUSIONS AND RECOMMENDATIONS

The 2012 year represents the third year of monitoring activities that have occurred at the Northeast Cape Fear River Wetland Mitigation Site. The site must demonstrate vegetation success for a minimum of five years or until the site is deemed successful.

There were two vegetation monitoring plots established throughout the 0.95 acre site. The 2012 vegetation monitoring of the site revealed an average density of 559 trees per acre.

NCDOT will continue vegetation monitoring at the Northeast Cape Fear River Wetland Mitigation Site in 2013.

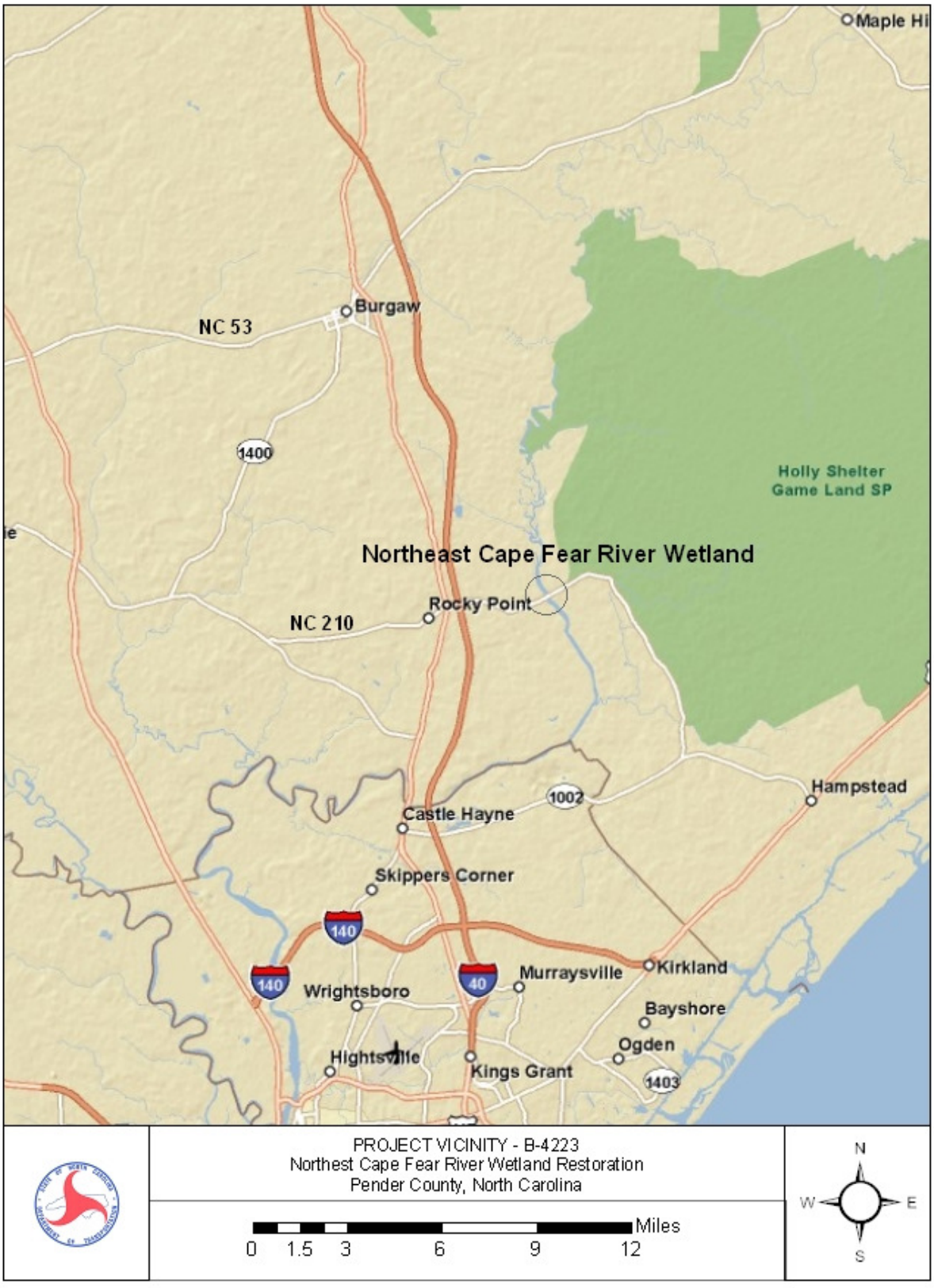


Figure 1. Site Location Map

APPENDIX A

SITE PHOTOS

Northeast Cape Fear River

Photo 1

Photo 2

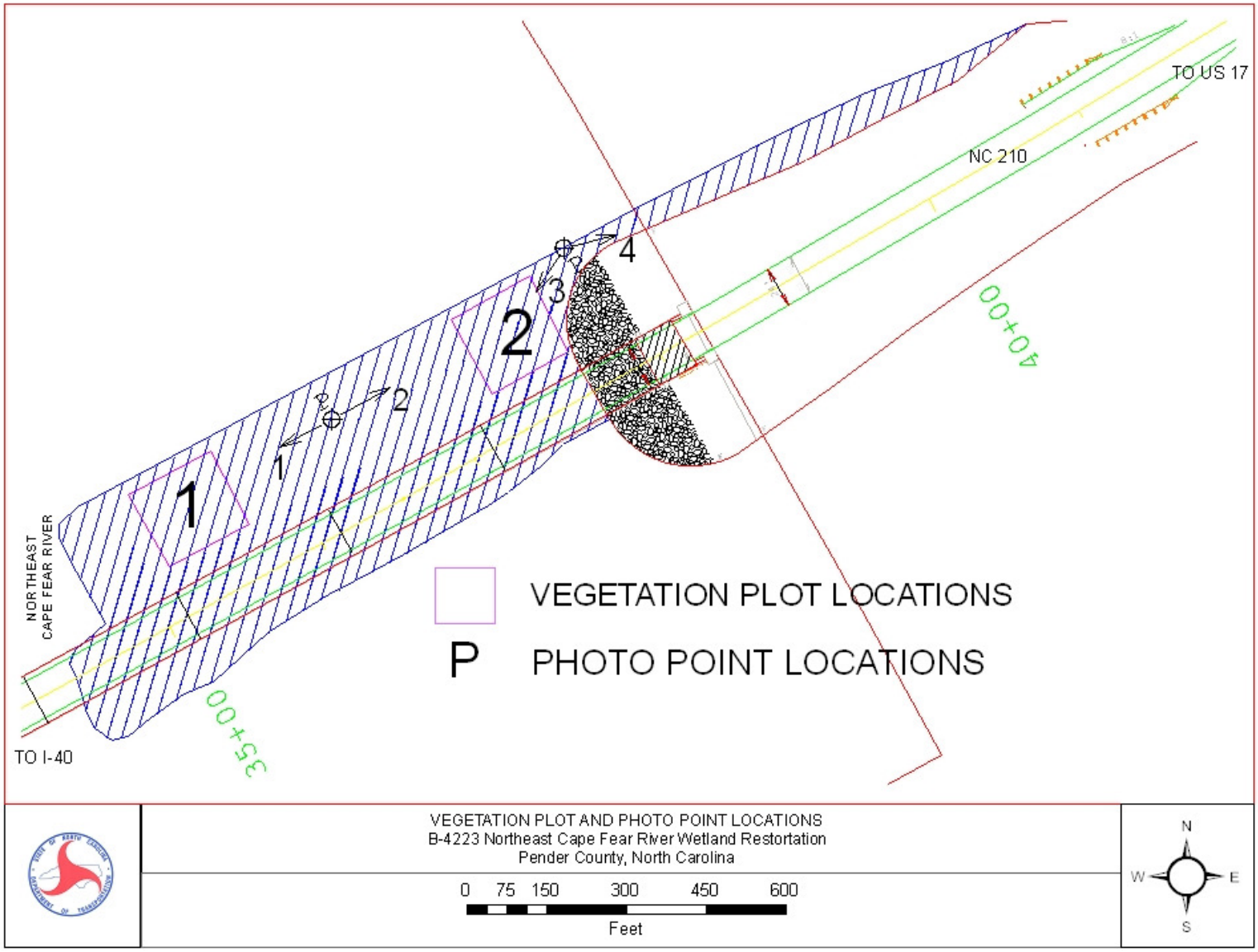
Photo 3

Photo 4

Installed additional signs at access point into site

Overview photo of the site

July 2012



VEGETATION PLOT AND PHOTO POINT LOCATIONS
B-4223 Northeast Cape Fear River Wetland Restortation
Pender County, North Carolina

0 75 150 300 450 600
Feet

N
W E
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